

CLAIMS

I claim:

1. A filling system including an anesthetic storage container and a drug reservoir, the filling system for use in transferring an anesthetic liquid between the anesthetic storage container and the drug reservoir, the filling system comprising:
 - 5 a filling device coupled to the drug reservoir to receive the anesthetic storage container;
at least one filling conduit formed in the filling device, the filling conduit having a first end including a flow opening in communication with the drug reservoir and a second end coupled to the anesthetic storage container, the
10 filling conduit providing a pathway for both the anesthetic liquid from the anesthetic storage container and a replenishment gas to flow between the anesthetic storage container and the drug reservoir; and
a closing valve operatively positioned adjacent to the flow opening of the filling conduit, the closing valve being movable to a closed position when a
15 level of the anesthetic agent in the drug reservoir exceeds a desired level, whereby when the closing valve is in the closed position, the closing valve prevents the flow of anesthetic agent from the anesthetic storage container into the drug reservoir.
2. The filling system of claim 1 wherein the closing valve includes a float positioned in the drug reservoir, the float member being movable along with the level of the anesthetic liquid in the drug reservoir.
3. The filling system of claim 2 wherein the float is pivotally mounted for movement in the drug reservoir.
4. The filling system of claim 1 wherein the closing valve includes a sealing ring positioned to seal the flow opening and prevent the flow of

anesthetic agent through the flow opening when the level of the anesthetic agent in the drug reservoir exceeds the desired level.

5 5. The filling system of claim 4 wherein the sealing ring is coupled to a float positioned in the drug reservoir, wherein the float moves along with the level of the anesthetic liquid in the drug reservoir such that the sealing ring seals the flow opening when the level of anesthetic agent in the drug reservoir exceed the desired level.

6. The filling system of claim 5 wherein the position of the sealing ring relative to the float is adjustable.

7. The filling system of claim 6 wherein the sealing ring is mounted to a support shaft, the support shaft being coupled to the float and extending through the flow opening.

8. The filling system of claim 7 wherein the sealing ring is positioned on the opposite side of the flow opening from the float such that the float pulls the sealing ring into contact with the flow opening when the level of the anesthetic liquid rises in the drug reservoir.

9. The filling system of claim 6 wherein the length of the support shaft extending from the float is adjustable.

10. A filling system including an anesthetic storage container and a drug reservoir, the filling system for use in transferring an anesthetic liquid between the anesthetic storage container and the drug reservoir, the filling system comprising:
5 a filling device coupled to the drug reservoir to receive the anesthetic storage container;

at least one filling conduit formed in the filling device, the filling conduit having a first end including a flow opening in communication with the drug reservoir and a second end coupled to the anesthetic storage container, the
10 filling conduit providing a pathway for both the anesthetic liquid from the anesthetic storage container and a replenishment gas to flow between the anesthetic storage container and the drug reservoir;

a closing valve operatively positioned adjacent to the flow opening of the filling conduit, the closing valve including a float pivotally mounted within the
15 drug reservoir, the float being movable along with the fluid level of the anesthetic agent within the drug reservoir; and

wherein the closing valve further comprises a sealing ring coupled to the float and positioned to block the flow opening when the fluid level in the drug reservoir exceeds a selected level.

11. The filling system of claim 10 wherein the position of the sealing ring relative to the float is adjustable.

12. The filling system of claim 11 wherein the sealing ring is mounted to a support shaft coupled to the float, wherein the length of the support shaft extending from the float is adjustable.

13. The filling system of claim 12 wherein the support shaft extends through the flow opening such that the sealing ring is positioned on the opposite side of the flow opening from the float such that the float pulls the sealing ring into contact with the flow opening when the level of the anesthetic liquid rises
5 in the drug reservoir.